



Corres. and Mail

RECEIVED
BOX AF

JUN 11 2003
TC 1700

AF 1742
RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE REQUESTED
EXAMINING GROUP 1742
PATENT

Customer No. 22,852
Attorney Docket No. 08144.0004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Marcos de Albuquerque
CONTRUCCI et al.

Application No.: 09/892,654

Filed: June 28, 2001

For: EQUIPMENT FOR DISTRIBUTION
AND FEEDING OF CHARGE AND
FUEL IN SHAFT FURNACES OF
RECTANGULAR CROSS
SECTION

)
)
) Group Art Unit: 1742

)
) Examiner: Melvyn Andrews

10/13

12

pb
06 11/2/03

Mail Stop AF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE AFTER FINAL

This is in response to the Final Office Action of May 16, 2003, constituting a final rejection of the instant patent application.

Applicants and their attorney want to thank the Examiner in charge of this application for the cooperation and assistance rendered to Applicants' attorney during the telephonic interview on May 28, 2003.

During the telephonic interview, the rejection under 35 U.S.C. § 103(a) of claims 1, 7-15 and 17 as being unpatentable over Legille et al., U.S. Patent No. 4,243,351 in

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

view of Fukushima et al., U.S. Patent No. 4,913,406, Contrucci et al., U.S. Patent No. 6,391,086 and Wieczorek, U.S. Patent No. 3,799,368 was discussed.

As set forth in Applicants' Amendment filed on February 24, 2003 and discussed at the telephonic interview, Legille et al. is deficient in neither disclosing nor suggesting means for distributing the charge to form a longitudinal central portion of solid fuel surrounded by a longitudinal portion of metal oxide. Independent claim 1 recites "means for distributing said charge from said conveying means to said shaft furnace to form in an interior cross section of said shaft furnace a vertical column of said charge comprising a longitudinal central portion of said solid fuel surrounded by a longitudinal portion of said metal oxide to maximize exchange of heat between ascending hot gas within said interior cross section of said shaft furnace and said vertical column of said charge." As explained at the interview and in Applicants' Amendment, this can not be achieved by the structure of Legille et al. which constitutes a chute suspending from a supporting fork rotatable about its axis to pivot the chute when the fork is rotated. This can not achieve a distribution wherein there is a column of solid fuel surrounded by a longitudinal portion of metal oxide, as called for in Applicants' independent claim 1. This requires, as described in Applicants' specification with respect to Figures 2 and 3, tubes 6 and 7 that are used to distribute the charge along the cross (only tube 6) and longitudinal (tubes 6 and 7) sections of the furnace to thus provide the proper positioning of the solid fuel and metal oxide which is necessary to form the column wherein the solid fuel is surrounded by a longitudinal portion of the metal oxide. The single rotating chute of Legille et al. is not suitable for this purpose. Instead, it is necessary to have a distributor that can function to permit movement in two planes as

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

described in paragraph [023] of Applicants' specification and shown in Figures 2 and 3. This disclosure, therefore, provides an example of the "means for distributing said charge from said conveying means to said shaft furnace to form in said interior cross section of said shaft furnace, a vertical column of said charge comprising a longitudinal central portion of said solid fuel surrounded by a longitudinal portion of said metal oxide". As discussed above, Legille et al. does not constitute Applicants' claimed means for distributing the charge as contended by the Examiner.

During the interview, and as stated in the Interview Summary of May 29, 2003, the Examiner maintained that the prior art, namely Legille et al. "disclosed a method and means of forming a rectangular shaped charge which may have many configurations of reductant and oxide including the claimed shaped charge". There is no disclosure or suggestion in Legille et al. of forming the charge column as set forth in Applicants' claim 1. Moreover, as discussed above, Legille et al.'s distributing apparatus is not suitable for this purpose. If the Examiner persists in this rejection, it is respectfully requested that he explain where in the prior art a charge constituting "a vertical column of said charge comprising a longitudinal central portion of solid fuel surrounded by a longitudinal portion of said metal oxide", as set forth in Applicants' claim 1 is disclosed or suggested. In addition, he is requested to explain how Legille et al.'s distributing apparatus is capable of forming this claimed vertical column of the charge, as expressly described in Applicants' independent claim 1.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: June 6, 2003

By: 

Clair X. Mullen, Jr.
Reg. No. 20,348

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com